The following data matrices contain the date field changes for NEMS Year 2000:

BAR\_CODE\_CHGS spread sheet - NEMS-BAR-CODE FILE
DAILY\_TRANS\_CHGS spread sheet - NEMS-DAILY-TRANS FILE
EQUIP\_CHGS spread sheet - NEMS-EQUIPMENT FILE
GLOBL\_TRANS-CHGS spread sheet - NEMS-GLOBAL-TRANS FILE
HISTORY\_CHGS spread sheet - NEMS-HISTORY FILE
INV\_STATUS\_CHGS spread sheet - NEMS-INV-STATUS FILE
INVENTORY\_CHGS spread sheet - NEMS-INVENTORY FILE
MONTH\_TRANS-CHGS spread sheet - NEMS-MONTH-TRANS FILE
PCM\_AUTH\_CHGS spread sheet - NEMS-PCM-AUTH FILE
PCM\_PENDING\_CHGS spread sheet - NEMS-PCM-PENDING FILE
REPORTS\_CHGS spread sheet - NEMS-REPORTS FILE
TRANSFER\_CHGS spread sheet - NEMS-TRANSFER FILE

Interpreting the seven (7) columns of the spread sheet:

- 1. Field Name
- 2. Field Length prior to changes (length stored on database)
- 3. Field Length after changes (proposed length stored on database)
- 4. Date format prior to changes (format stored on database)
- 5. Date format after changes (proposed format stored on database)
- 6. Type of change made to database:
  - a) c = Convert data (actual length has not changed but the contents of the database field is being converted. Usually involves removing slashes and dashes).
  - b) e = Expand Field (the two (2) digit year portion of the field has been expanded to four (4) digits).
  - c) n = New Redefine Field (PREDICT now contains two redefinition fields using the same name with (F2- first two numbers) or (L6 last 6 numbers).
- 7. Header contains the file name and the values contained reflect the edit mask in PREDICT. (WE HAVE NOT CHANGED ANY OF THESE VALUES TO DATE Changes are expected) The current PREDICT edit masks are: \*1 = EM = Z(9)99/99/99; \*2 = EM = 99/99; \*3 = EM = Z99/99/99; \*4 = EM = Z99/99; \*5 = EM = Z(9)99/99.

The NEMS team's analysis revealed that over 80% of the date fields need to be changed because of the following reasons:

- 1. Date field is a descriptor used in Reads and Finds.
- 2. Date field is used in a calculation or comparison.
- 3. Date field is used in the Adhoc programs.

Because of the quantity of changes, we addressed all of the date fields in PREDICT. We extended the numeric fields to hold a four digit year. We found that all of the alphanumeric fields were already large enough to hold a four digit year, but the contents need to be changed to eliminate dashes and slashes.

The following six (6) items describe the NEMS team's technical plan for implementation.

- 1. The NEMS team has determined that we will not change all of the internal program date fields (local data elements). We have added redefines to the PREDICT files. The redefinition will be the same data element name followed by (-F2) or (-L6). We have also determined that Report Mode programs cannot use the redefines unless the program uses a Define Data Statement. This will require all data definitions to be moved to the Define Data Statement at the top of the program. The following will be incorporated for Structured and Report Mode programs using Define Data Statements:
  - a) When a program does not need to use the century, we will move the predict redefined (L6) numeric field to the programs local numeric 6 field.
- 2. If the program needs the century for calculations or comparisons, the predict field will be used in a move statement to a numeric 8 field in the program and the local data elements will require expansion. An alternate solution is to create a local numeric 8 field in the programs. The new field will be inserted before the existing numeric 6 field. This will make the existing numeric 6 field a redefinition of the new numeric 8 field. The predict field will be moved in the program to the new numeric 8 field.
- 3. We will not make any cosmetic changes (display year as 2 digits). We will only expand date fields on the input screens where the century cannot be derived. All reports will reflect only a two digit year.
- 4. When elements are being added or changed in the programs just before the Store or Update command, a Century-subprogram will be called to populate the century if one has NOT already been populated in the view.

The Century-subprogram will be called after all Inputs to process date fields that require edit rule processing (comparisons and calculations).

- a) If a date field is being used in a comparison, the local data element may have been expanded to a four digit year. If so, when the edited local data field is moved to the view, it will contain a four digit year. The local data element field would have had the century derived by using the Century-subprogram.
- 5. Systems' dates (preceded with \*) that are being used to populate PREDICT fields and some local data elements will be changed to reflect either \*DATN or \*DATX which contain a four digit year. We will use edit masks in PREDICT. Where move statements are used, we will use move edited to derive the proper format for the receiving data elements. We are not changing systems' dates that are being used directly on the screens that represent a cosmetic two digit century.
- 6. We have preliminary test results on the SAG DD Parameter. We were able to set the system's date to the year 2000 and add a record in the database with a 1/1/2000 date. We have also installed the new Predict format and successfully ran a conversion program.

Please address your questions to Jim Crowell or Charmaine Absher at the following addresses.

jim.crowell@msfc.nasa.gov or 205-544-8408 charmaine.absher@msfc.nasa.gov or 205-544-8503